

## ABSTRACT

### METHOD FOR FABRICATING SEED LAYER FOR SPIN VALVE SENSOR FOR MAGNETIC HEADS FOR HARD DISK DRIVES

A magnetic head having a spin valve sensor that is fabricated utilizing an  $\text{Al}_2\text{O}_3$ ,  $\text{NiMnO}$ ,  
5  $\text{NiFeCr}$  seed layer upon which a typical  $\text{PtMn}$  spin valve sensor layer structure is subsequently  
fabricated. The preferred embodiment fabrication process of the  $\text{NiFeCr}$  layer includes the  
overdeposition of the layer to a first thickness of from 15 Å to 45 Å followed by the etching back  
of the seed layer of approximately 5 Å to approximately 15 Å to its desired final thickness of  
approximately 10 Å to 40 Å. The Cr at.% composition in the  $\text{NiFeCr}$  layer is preferably from  
10 approximately 35 at.% to approximately 46 at.%. The crystal structure of the surface of the  
etched back  $\text{NiFeCr}$  layer results in an improved crystal structure to the subsequently fabricated  
spin valve sensor layers, such that the fabricated spin valve exhibits increased  $\Delta R/R$  and reduced  
coercivity.